## REMARKS UNDER 37 CFR § 1.111

### Formal Matters

Claims 43-75 were previously pending in the application. Claims 67-69 and 74-75 are withdrawn from consideration. Certain claims are amended as indicated above, claims 43, 44, 45, 47, and 65 are canceled, and claims 76-87 are added. The new claims fall within the group under examination. Accordingly, Claims 46, 48-64, 66-87 are currently under consideration.

Claims 57-64 and 66 are allowed, for which applicants are grateful. Claim 46 has been rewritten in independent form. Claims 48-56, and 70-73 have been amended only to incorporate limitations of claims from which they previously depended. Accordingly, claims 46, 48-56 and 70-73 cover all equivalents to which they were previously entitled.

No new matter is added.

### Allowable Subject Matter

Applicants note with gratitude the Examiner's indication that claims 57-66 are allowable, and that claims 46, 48-56, and 70-73, while objected to as being dependent upon a rejected base claim, would be allowable if rewritten in independent form.

### Rejections Under 35 USC § 112 ¶ 1

Claims 43-45 and 47 stand rejected as not meeting the enablement and description requirements of 35 USC § 112 ¶ 1. The Office Action indicates that applicants are not entitled to the treatment of any inflammatory or arthritic condition using any protein that releases TNF receptor, as recited in claim 43, but only to SEQ. ID NOs:8 and 9 and homologs thereof.

Applicants respectfully disagree. A number of other TNF receptor releasing proteins are described in the specification, exemplified by SEQ. ID NOs:1-7, SEQ. ID NO:10, and protein substantially purified from the culture supernatant of cells implicated in the inflammatory pathway, such as THP-1, U-937, HL-60, ME-180, MRC-5, Raji, or K-562 cells or normal human monocytes. Protein expressed from SEQ. ID NOs:4 and 6 are shown to prevent septic shock in Example 6. TRRE purified from PHA stimulated THP-1 cells is tested in the septic shock model in Example 3.

Claim 43 as previously presented covered a method for treating arthritis or reducing inflammation in a subject, comprising administering to the subject a protein that causes TNF receptor to be released from human cells in which TNF receptor is expressed. Claim 44 further required the protein to be a metalloprotease. Claim 45 further required that the protein be able to cause cleavage of the p55 isoform of the TNF receptor.

These claims were in compliance with the requirements of 35 USC § 112 by defining the protein according to its function. This is explicitly permitted under § 112 ¶ 6. Claim 43 has the same meaning as a claim presented in the following form:

> 43. A method for treating an arthritic or inflammatory condition in a subject, comprising administering to the subject a protein comprising a means for causing TNF receptor to be released from human cells in which TNF receptor is expressed.

The prior art does not teach or reasonably suggest the use of a protein having TNF receptor releasing activity for treating an arthritic or inflammatory condition in a subject. The specification provides a wide range of exemplars that fall within the claimed invention. The specification further directs the skilled reader towards sources for additional proteins having this property that can be tested and used to treat an arthritic or inflammatory condition in a subject according to claim 43. Accordingly, applicants are entitled to this scope of coverage under § 112 ¶ 6.

Since this application is subject to a final rejection, to expedite protection for the allowable subject matter, claims 43 and 47 have been canceled. Applicants intend to pursue coverage in the manner of claim 43 in a related application.

Claims 46, 48-56 and 70-73 are objected to as depending from a rejected base claim, but are indicated as otherwise being in condition for allowance, for which applicants are grateful. By way of this amendment, at the Examiner's suggestion, claim 46 has been written in independent form, and claims 4856 and 70-73 have been amended to depend directly or indirectly from claim 46. Claims 44 and 45 have also been amended to depend from claim 46.

New claims 76-87 claim the use of a protein encoded in SEQ. ID NO:8 or SEQ. ID NO:9 (substantially in their entirety) for treating arthritis or reducing inflammation. In accordance with the wording of the allowed claims, these claims are also believed to be allowable.

**Request for Rejoinder**

Claims 67-69, 74, and 75 are withdrawn from consideration.

By way of this amendment, claim 67 has been amended to indicate that the active agent of the pharmaceutical composition is *formulated in an excipient for treating arthritis or reducing inflammation in a human patient.* Claims 68 and 69 further require the product to be *packaged in a kit with instructions for treating arthritis or reducing inflammation.* The active agent is a protein encoded in SEQ. ID NO:8 or 9, or a homolog thereof, limited in the same manner as the protein used in the method of claim 46.

Thus, all considerations of patentability of these claims under 35 USC §§ 101, 102, 103, and 112 ¶ 1 have already been considered and resolved in this application. There would be no undue burden to the Office to rejoin these claims into the group under examination. However, it would be a significant burden (both in terms of expense and in delayed patent protection) for applicants to have to file a divisional application in order to pursue these claims. This could unnecessarily delay investment and commercial development of this product to the benefit of patients that would benefit from the availability of these compounds to treat their arthritis or reduce their inflammation.

For this reason, rejoinder of claims 67-69, 74, and 75 into the group under examination is respectfully requested.

**Conclusion**

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner believes that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided below.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number IRVN-007CON.

Respectfully submitted,
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